

IN THE CLAIMS:

Please amend claims 1, 7-8, 15, 18-20, 22-25 and 29-30, and add new claims 31-34 as follows.

1. (Currently Amended) A system, ~~configured to~~ comprising:
~~perform cluster management to enable configuration and monitoring of a cluster from a single point,~~
~~the system comprising:~~
a network interface configured to communicate with nodes in ~~the~~ a cluster;
a memory configured to store information relating to cluster management;
a configuration subsystem coupled to a remote management broker, wherein the remote management broker is configured to distribute information between the nodes in the cluster; and
a processor configured to [[:],
access the cluster from ~~the~~ a single point;
obtain information relating to at least two devices within the cluster;
present the information to a user;
determine network management operations to perform to the cluster;
perform the determined network management operations; and
determine whether the network management operations on the cluster,
including said at least two devices, were applied correctly, and when the network

management operations were not applied correctly, roll back to a successful configuration.

2. (Previously Presented) The system of Claim 1, wherein the processor is configured to provide a command line interface that is configured to access the cluster.

3. (Previously Presented) The system of Claim 1, wherein the processor is configured to provide a graphical user interface that is configured to access the cluster.

4. (Original) The system of Claim 1, further comprising:
an aggregator configured to aggregate data relating to the devices within the cluster.

5. (Previously Presented) The system of Claim 1, wherein the remote management broker further comprises:

a secure transport configured to transport messages;

a remote management broker server coupled to the secure transport; and

a remote management broker client coupled to the secure transport.

6. (Previously Presented) The system of claim 1, wherein the remote management broker is further configured to collect attributes from the configuration subsystem.

7. (Currently Amended) The system of Claim ~~1~~ 5, wherein the messages include a header that is configured to authenticate the messages.

8. (Currently Amended) The system of Claim 7, wherein the header includes a message authentication code that acts as a shared secret within the cluster and a magic field that identifies one or more of the message messages as a remote management broker message.

9. (Currently Amended) A method, comprising:

- ~~providing cluster management to enable the configuration and monitoring of a cluster from a single point;~~
- ~~the providing cluster management comprising:~~
- accessing ~~the~~ a cluster from ~~the~~ a single-point;
- obtaining attributes relating to at least two devices within the cluster;
- receiving input from a user relating to the attributes;
- determining network management operations to perform on the cluster based on the received input;

performing the determined network management operations on the cluster; and
determining whether the network management operations on the cluster, including
said at least two devices, were applied correctly, and when the network management
operations were not applied correctly, rolling back to a successful configuration.

10. (Previously Presented) The method of Claim 9, further comprising:
applying a configuration lock that is intended to prevent other applications from
performing network management operations on the devices within the cluster.

11. (Previously Presented) The method of Claim 9, wherein the providing cluster
management from the single-point comprises providing cluster management from a
selected one of a command line interface or a graphical user interface.

12. (Previously Presented) The method of Claim 11, further comprising:
distributing information between the nodes in the cluster using a remote
management broker.

13. (Previously Presented) The method of Claim 12, wherein the performing the
determined network management operations on the cluster further comprises distributing
the network management operations to each of the devices.

14. (Previously Presented) The method of Claim 12, further comprising:
determining whether the network management operations on the cluster were performed correctly, and when the network management operations were not performed correctly, rolling back to a successful configuration.

15. (Currently Amended) The method of Claim 12, further comprising:
utilizing a header that is configured to authenticate the messages.

16. (Previously Presented) The method of Claim 9, further comprising:
applying a configuration lock that is intended to prevent other applications from performing network management operations on the devices within the cluster during a predetermined time; and

releasing the configuration lock after the network management operations are performed.

17. (Previously Presented) The method of Claim 9, further comprising:
aggregating data relating to the devices within the cluster on a single device within the cluster.

18. (Currently Amended) A computer program embodied on a computer readable storage medium, said computer program configured to control a processor comprising instructions for causing a computer to perform:

obtaining attributes relating to at least two devices within a cluster from a single-point;

receiving input relating to the attributes;

determining network management operations to perform on the cluster based on the received input;

distributing the network management operations to the devices within the cluster;

applying the network management operations; and

determining whether the network management operations on the cluster, including said at least two devices, were applied correctly, and when the network management operations were not applied correctly, rolling back to a successful configuration.

19. (Currently Amended) The computer readable ~~storage~~ medium of Claim 18, further comprising instructions ~~for causing a computer~~ to control a processor to perform:

applying a configuration lock that is intended to prevent other applications from performing network management operations on the devices within the cluster during a predetermined time.

20. (Currently Amended) The computer readable-storage medium of Claim 18, wherein receiving the input further comprises at least one of utilizing a command line interface or utilizing a graphical user interface.

21. (Canceled)

22. (Currently Amended) The computer readable-storage medium of Claim 18, further comprising instructions-for-causing-a-computer to control a processor to perform: providing a header that is configured to help in authenticating-the messages.

23. (Currently Amended) The computer readable-storage medium of Claim 18, further comprising instructions-for-causing-a-computer to control a processor to perform: aggregating data relating to the devices within the cluster on a single device within the cluster.

24. (Currently Amended) ~~A cluster management~~ An apparatus, comprising:
obtaining means for obtaining attributes relating to at least two devices within a cluster from a single-point;
receiving means for receiving input relating to the attributes;
determining means for determining network management operations to perform on the cluster based on the received input;

distributing means for distributing the network management operations to the devices within the cluster;

applying means for applying the network management operations to the devices within the cluster; and

determining means for determining whether the network management operations on the cluster, including said at least two devices, were applied correctly, and when the network management operations on the cluster were not applied correctly, rolling back to a successful configuration.

25. (Currently Amended) The apparatus of Claim 24, further comprising:

applying means for applying a configuration lock that is intended to prevent other applications from performing network management operations on the devices within the cluster during a predetermined time.

26. (Cancelled)

27. (Previously Presented) The system of Claim 8, wherein the message authentication code is calculated from contents of the message and from a shared secret value that is known to the devices within the cluster.

28. (Previously Presented) The method of Claim 15, wherein the header comprises a message authentication code that is calculated from contents of the message and from a shared secret value that is known to the devices within the cluster.

29. (Currently Amended) The computer readable ~~storage~~ medium of Claim 22, wherein the header comprises a message authentication code that is calculated from contents of the message and from a shared secret value that is known to the devices within the cluster.

30. (Currently Amended) A system, comprising:
~~means for performing cluster management to enable configuration and monitoring of a cluster from a single point;~~
~~the means for performing cluster management comprising:~~
network interface communicating means for communicating with nodes in ~~the~~ a cluster;
~~memory~~storing means for storing information relating to cluster management;
~~subsystem means for configuring; coupled to remote management broker means for distributing~~ means for distributing information between the nodes in the cluster; ~~and~~
~~processor means for~~
accessing means for accessing the cluster from ~~the~~ a single-point;

obtaining means for obtaining information relating to at least two devices within the cluster;

presenting means for presenting the information to a user;

operation determining means for determining network management operations to perform to the cluster;

performing means for performing the determined network management operations; and

correction determining means for determining whether the network management operations on the cluster, including said at least two devices, were applied correctly, and when the network management operations were not applied correctly, rolling back to a successful configuration.

31. (New) An apparatus, comprising:

a network interface configured to communicate with nodes in a cluster;

a memory configured to store information relating to cluster management; and

a processor configured to,

access the cluster from a single-point,

obtain information relating to at least two devices within the cluster,

present the information to a user,

determine network management operations to perform to the cluster,

perform the determined network management operations, and

determine whether the network management operations on the cluster, including said at least two devices, were applied correctly, and when the network management operations were not applied correctly, roll back to a successful configuration.

32. (New) The apparatus of Claim 31, wherein the processor is configured to provide a command line interface that is configured to access the cluster.

33. (New) The apparatus of Claim 31, wherein the processor is configured to provide a graphical user interface that is configured to access the cluster.

34. (New) The apparatus of Claim 31, further comprising:
an aggregator configured to aggregate data relating to the devices within the cluster.